In re Patent Application of:
WRIGHT ET AL.
Serial No. **09/976,647**
Filed: **October 11, 2001**

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REMARKS

Claims 59-75 remain in this application. Claims 59, 65, 68, 69 and 75 have been amended.

Applicants file this Amendment Under 37 CFR §1.607 with existing claims 59-75 that had been added and copied verbatim from U.S. Patent No. 6,181,990, granted January 30, 2001, to John Francis Grabowsky and David Ray Stevens (hereinafter "Grabowsky") for purposes of provoking an interference with that patent. The U.S. Patent and Trademark Office considers these amended claims patentable based on a reexamination of these amended claims in a reexamination of the Grabowsky patent, filed on August 12, 2003 as application control no. 90/006,742.

In an Office Action dated August 9, 2002, the Examiner rejected the originally copied claims from Grabowsky as being unpatentable, and thus, an interference could not be initiated since a prerequisite for interference under 37 CFR §1.606 is that the claim be patentable to the applicant subject to a judgment in the interference. Original claims 59, 62-70 and 75 were rejected as anticipated by U.S. Patent No. 5,351,194 to Ross et al. (hereinafter "Ross") and other claims as obvious over Ross in view of U.S. Patent No. 5,652,717 to Miller et al. (hereinafter "Miller"), U.S. Patent No. 5,943,399 to Bannister et al. (hereinafter "Bannister"), or Ross in view of U.S. Patent No. 5,463,656 to Polivka et al. (hereinafter "Polivka").

A request for reexamination of Grabowsky was filed on August 12, 2003 as application control no. 90/006,742. During the reexamination, the patent owner amended independent claims to overcome the rejections over the cited prior art.

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In the reasons for patentability/confirmation mailed October 3, 2005, the Examiner stated that claims 1-51 of Grabowsky are patentable over the prior art of record. According to the Examiner, as argued by the patent owner, the art of record failed to teach an aircraft data transmission system and method comprising, among other limitations, at least one first sensor on the aircraft which gathers in-flight data and at least one second sensor configured to sensing a landing of the aircraft, wherein communication is initiated via a cellular infrastructure in response to the second sensor sensing the landing of the aircraft.

Applicants have amended claims 59, 65, 68, 69 and 75 in the manner as allowed in the reexamination of Grabowksy. Applicants' disclosure specifically recites a plurality of transducers as set forth in the claim chart, corresponding to at least first and second sensors.

Grabowsky also amended the independent claims to include the recitation that the flight data includes time, airspeed, altitude, vertical acceleration, and heading data relating to a flight of the aircraft. Applicants note that Federal Aviation Administration Section 121-343 (1994) mandates that large airplanes certified for operation above 25,000 feet or turbine-engine powered must be equipped with one or more approved flight recorders that record data relating to time, altitude, airspeed, vertical acceleration and heading. Other data are also recorded as set forth in the regulation. Thus, any flight data acquired by the DFDAU and DFDR inherently includes this data. These parameters are directly from the FAA requirements for "black boxes," i.e., the flight data recorders, and a copy of section 121.343 is

enclosed with this Amendment as Exhibit 1. This FAA requirement is dated May 24, 1994, which predates the effective filing date of November 14, 1995 for the instant application and the July 30, 1998 filing date of Grabowsky.

Claims 59-62 correspond to Claims 1-4 of Grabowsky. Claims 63 and 64 correspond to Claims 6 and 7 of Grabowsky. Claims 65-74 correspond to Claims 15-24 of Grabowsky. Claim 75 corresponds to Claim 33 of Grabowsky.

In accordance with 37 CFR §1.607(a), the copied claims may be specifically applied to Applicants' disclosure as follows:

Copied Claim	**Applicants' Disclosure**
59. An aircraft data transmission system,	Title: page 1, lines 1-2
the aircraft having a data acquisition unit,	DFDAU 16, page 20, lines 16-26; DFDR 18 operative with GDL 101, page 21, line 11-17.
and the aircraft including a data storage medium having stored thereon flight data gathered in-flight by at least a first sensor on the aircraft, comprising:	GDL data storage and communications unit 111 (FIG. 3) stores flight data. GDL unit synchronizes with the flight parameter data stream from the DFDAU 16, and stores the collected data in memory. Page 20, lines 1-26. There are a plurality of sensors, described as aircraft flight parameter transducers, Page 20, lines 11-15. FIG. 2.
a communications unit located in the aircraft and in communication with the data acquisition unit;	GDL airborne segment 101, GDL unit 111, GDL antenna 113, page 16, lines 19-22; page 20, lines 16-22.
at least a second sensor configured to sense landing of the aircraft	The aircraft data is provided by the airborne data acquisition unit in a compressed and

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Copied Claim	Applicants' Disclosure
	encrypted format that is automatically downloaded to an airport-resident base station segment when the aircraft lands. Page 41, lines 5-10. A second transducer, i.e., second sensor, must sense the landing of the aircraft in order to download automatically any data.
a cellular infrastructure in communication with said communications unit after the aircraft has landed, wherein the cellular infrastructure communicates said flight data, and	FIG. 1A, circular cells defined by wireless routers 201 and base stations 202; FIG. 4, circular cells 214, 215; page 15, lines 23-24; page 23, lines 21-23. Page 37, line 20-25 defines the system as cellular infrastructure typical of cellular telephone network. Data is communicated through this network to the server/archive 204, 304. Page 17, lines 18-23.
wherein the communication is initiated when at least the second sensor senses the landing of the aircraft;	Page 41, lines 7-9; "that is automatically downloaded ... when aircraft lands." Second sensor, i.e., transducer, must be used.
a data reception unit in communication with said cellular infrastructure; and	Server/archive 204 in association with server/archive 304; page 17, lines 18-23.
wherein said flight data includes time, airspeed, altitude, vertical acceleration, and heading data relating to a flight of the aircraft.	Federal Aviation Administration Section 121-343 (1994) mandates that large airplanes that fly above 25,000 feet and turbo-engine powered airplanes must be equipped with one or more approved flight recorders, and must record data relating time, altitude, airspeed, vertical acceleration and heading. Thus, the flight data acquired by the DFDAU and DFDR inherently includes this listed data.
60. The system of claim 59	Transmission Control Protocol/

Copied Claim	Applicants' Disclosure
wherein said data reception unit is in communication with said cellular infrastructure via the Internet.	Internet Protocol (TCP/IP) operative in Ethernet LAN 207 with TELCO connection (FIG. 1). Clearly defined use with Internet.
61. The system of claim 59 wherein said data reception unit is in communication with said cellular infrastructure via the public switch telephone network.	Server/archive 304, gateway segment 306 in communication with ground subsystem 200 via ISDN TELCO (FIG. 1); page 18, lines 6-9. TELCO is public switch telephone network.
62. The system of claim 59 wherein said communications unit has at least one modem in communication with said cellular infrastructure and	Network transceiver 26 naturally includes modem to modulate/ demodulate signals.
said data reception unit has at least one modem in communication with said cellular infrastructure.	Base station 202 naturally includes modem with server 204 to demodulate/modulate signals and operative with Ethernet LAN 207.
63. The system of claim 59 wherein said cellular infrastructure includes:	
an antenna;	Antenna 222, 223, FIG. 5, page 25, lines 18-23.
a transceiver subsystem in communication with said antenna; and	Transceiver 221, FIG. 5, page 25, lines 18-23.
a controller in communication with said transceiver subsystem.	Controller/processor 225, FIG. 5, page 26, lines 3-6.
64. The system of claim 59 wherein said data reception unit includes:	
a router; and	Router 201

Copied Claim	**Applicants' Disclosure**
a processor in communication with said router,	Server 304 in communication with router 201, FIG. 1; page 19, lines 5-12.
said processor having a storage unit.	Archive includes memory, database management software; page 19, lines 5-12.
65. An aircraft data transmission system, the aircraft having a data acquisition unit,	Title: page 1, lines 1-2 DFDAU 16, page 20, lines 16-26; DFDR 18 operative with GDL 101, page 21, line 11-17.
the aircraft including a data storage medium having stored thereon flight data gathered in-flight by at least one sensor on the aircraft, comprising:	GDL data storage and communications unit 111 (FIG. 3) stores flight data. GDL unit synchronizes with the flight parameter data stream from the DFDAU 16, and stores the collected data in memory. Page 20, lines 1-26. There are a plurality of sensors, described as aircraft flight parameter transducers, Page 20, lines 11-15. FIG. 2.
sensing means for sensing a landing of the aircraft;	The aircraft data is provided by the airborne data acquisition unit in a compressed and encrypted format that is automatically downloaded to an airport-resident base station segment when the aircraft lands. Page 41, lines 5-10. A second transducer, i.e., second sensor, must sense the landing of the aircraft in order to download automatically any data.
means for transmitting said flight data from the data acquisition unit, via a cellular infrastructure after the aircraft has landed,	GDL airborne segment 101, GDL unit 111, GDL antenna 113, page 16, lines 19-22; page 20, lines 16-22. FIG. 1A, circular cells defined by wireless routers 201 and base stations 202; FIG. 4, circular cells 214, 215; page 15,

Copied Claim	Applicants' Disclosure
	lines 23-24; page 23, lines 21-23. Page 37, line 20-25 defines the system as cellular infrastructure typical of cellular telephone network.
wherein transmission of the data is initiated when the sensing means sense the landing of the aircraft;	Page 41, lines 7-9; "that is automatically downloaded . . . when aircraft lands." Sensor must be used.
means for receiving said flight data from said cellular infrastructure; and	Server/archive 204 in association with server/archive 304; page 17, lines 18-23.
wherein said flight data includes time, airspeed, altitude, vertical acceleration, and heading data relating to a flight of the aircraft.	Federal Aviation Administration Section 121-343 (1994) mandates that large airplanes that fly above 25,000 feet and turbo-engine powered airplanes must be equipped with one or more approved flight recorders, and must record data relating time, altitude, airspeed, vertical acceleration and heading. Thus, the flight data acquired by the DFDAU and DFDR inherently includes this listed data.
66. The system of claim 65 wherein said means for transmitting data includes a processor.	Processor 22, FIG. 3.
67. The system of claim 65 wherein said means for receiving data includes a processor.	Server 304 in communication with router 201, FIG. 1; page 19, lines 5-12.
68. A method of transmitting aircraft flight data from an aircraft, comprising:	Title: page 1, lines 1-2
receiving flight data from a data acquisition unit;	DFDAU 16, page 20, lines 16-26; DFDR 18 operative with GDL 101, page 21, line 11-17.

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receiving a signal indicating a landing of the aircraft from at least a first sensor;	The aircraft data is provided by the airborne data acquisition unit in a compressed and encrypted format that is automatically downloaded to an airport-resident base station segment when the aircraft lands. Page 41, lines 5-10. A transducer, i.e., first sensor, must sense the landing of the aircraft in order to download automatically any data.
transmitting said flight data via a cellular communications infrastructure after the aircraft has landed,	FIG. 1A, circular cells defined by wireless routers 201 and base stations 202; FIG. 4, circular cells 214, 215; page 15, lines 23-24; page 23, lines 21-23. Page 37, line 20-25 defines the system as cellular infrastructure typical of cellular telephone network.
wherein the cellular communications infrastructure is accessed in response to the signal; and	Page 41, lines 7-9; "that is automatically downloaded . . . when aircraft lands." Thus, data is transmitted through the cellular communication infrastructure.
receiving said transmitted flight data, and	Server/archive 204 in association with server/archive 304; page 17, lines 18-23.
wherein said flight data is gathered in-flight by at least a second sensor on the aircraft, and includes time, airspeed, altitude, vertical acceleration, and heading data relating to a flight of the aircraft.	GDL data storage and communications unit 111 (FIG. 3) stores flight data. GDL unit synchronizes with the flight parameter data stream from the DFDAU 16, and stores the collected data in memory. Page 20, lines 1-26. There are a plurality of sensors, described as aircraft flight parameter transducers, Page 20, lines 11-15. FIG. 2. Federal Aviation Administration Section 121-343

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	(1994) mandates that large airplanes that fly above 25,000 feet and turbo-engine powered airplanes must be equipped with one or more approved flight recorders, and must record data relating time, altitude, airspeed, vertical acceleration and heading. Thus, the flight data acquired by the DFDAU and DFDR inherently includes this listed data.
69. A computer-implemented method of transmitting aircraft flight data from an aircraft, comprising:	Title: page 1, lines 1-2.
receiving flight data from a digital flight data acquisition unit;	DFDAU 16, page 20, lines 16-26; DFDR 18 operative with GDL 101, page 21, line 11-17.
wherein said flight data is gathered in-flight by at least a first sensor on the aircraft, and includes time, airspeed, altitude, vertical acceleration, and heading data relating to a flight of the aircraft;	GDL data storage and communications unit 111 (FIG. 3) stores flight data. GDL unit synchronizes with the flight parameter data stream from the DFDAU 16, and stores the collected data in memory. Page 20, lines 1-26. There are a plurality of sensors, described as aircraft flight parameter transducers, Page 20, lines 11-15. FIG. 2. Federal Aviation Administration Section 121-343 (1994) mandates that large airplanes that fly above 25,000 feet and turbo-engine powered airplanes must be equipped with one or more approved flight recorders, and must record data relating time, altitude, airspeed, vertical acceleration and heading. Thus, the flight data acquired by the DFDAU and DFDR inherently includes this listed data.

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Copied Claim	Applicants' Disclosure
receiving a signal indicating a landing of the aircraft from at least a second sensor.	The aircraft data is provided by the airborne data acquisition unit in a compressed and encrypted format that is automatically downloaded to an airport-resident base station segment when the aircraft lands. Page 41, lines 5-10. A second transducer, i.e., second sensor, must sense the landing of the aircraft in order to download automatically any data.
processing said flight data to prepare said data for transmission; and	GDL airborne segment 101, GDL unit 111, GDL antenna 113, page 16, lines 19-22; page 20, lines 16-22.
transmitting said processed data via a cellular infrastructure after the aircraft has landed,	FIG. 1A, circular cells defined by wireless routers 201 and base stations 202; FIG. 4, circular cells 214, 215; page 15, lines 23-24; page 23, lines 21-23. Page 37, line 20-25 defines the system as cellular infrastructure typical of cellular telephone network.
wherein the cellular infrastructure is accessed in response to the signal.	Page 41, lines 7-9; "that is automatically downloaded . . . when aircraft lands." Thus, data is transmitted through the cellular communications infrastructure.
70. The method of claim 69 further comprising receiving said transmitted data at a flight operations center.	FIG. 1 Remote Flight Operations Control Center 300.

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Copied Claim	Applicants' Disclosure
71. The method of claim 70 further comprising receiving said transmitted data and transmitting said received data via the Internet before receiving said transmitted data at a flight operations center.	Transmission Control Protocol/ Internet Protocol (TCP/IP) operative in Ethernet LAN 207 with TELCO connection (FIG. 1). Clearly defined use with Internet.
72. The method of claim 70 further comprising receiving said transmitted data and	
transmitting said received data via the public-switched telephone network before receiving said transmitted data at a flight operations center.	Server/archive 304, gateway segment 306 in communication with ground subsystem 200 via ISDN TELCO (FIG. 1); page 18, lines 6-9.
73. The method of claim 69 wherein processing said flight data includes:	
compressing said flight data;	Source coding can be used for data compression. Aircraft data downloaded as compressed data. Page 27, lines 9-12 and line 25.
encrypting said flight data;	Aircraft flight data is encrypted. Page 27, line 10.
segmenting said flight data; and	Flight data is segmented into channels. Flight data is multiplexed. Page 27, lines 9 and 19-20.
constructing packets of data from said segmented flight data.	TCP/IP is packet protocol. FIG 1. System produces "flight performance data packet." Page 31, line 10, page 32, line 2.
74. The method of claim 69 wherein receiving said transmitted data includes:	
acknowledging receipt of said transmitted data;	Polling occurs and receipts of packets acknowledged and retransmissions requested when

Copied Claim	**Applicants' Disclosure**
	errors occur. Standard use of TCP/IP. FIG. 1. Page 9, lines 1-24. Page 41, lines 9-13.
reassembling said received data; decrypting said reassembled data; uncompressing said decrypted data; and storing said uncompressed data.	FIG. 1. Base station segment operative with wireless bridge segment and receives packets based on TCP/IP and operative with remote flight operations control center 300; Also operative with GDL work station segment 303 and controller 301 to acknowledge receipt, reassemble data, decrypt, uncompress and store for further use in server/archive 304.
75. A computer readable medium having stored thereon instructions which when executed by a processor, cause the processor to perform the steps of:	GDL unit includes processor 22 (FIG. 3) associated with memory 24 as stored instructions.
receiving flight data from a digital flight data acquisition unit in an aircraft;	Title: page 1, lines 1-2 DFDAU 16, page 20, lines 16-26; DFDR 18 operative with GDL 101, page 21, line 11-17.
wherein said flight data is gathered in-flight by at least a first sensor on the aircraft, and includes time, airspeed, altitude, vertical acceleration, and heading data relating to a flight of the aircraft;	GDL data storage and communications unit 111 (FIG. 3) stores flight data. GDL unit synchronizes with the flight parameter data stream from the DFDAU 16, and stores the collected data in memory. Page 20, lines 1-26. There are a plurality of sensors, described as aircraft flight parameter transducers, Page 20, lines 11-15. FIG. 2. Federal Aviation Administration Section 121-343

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	(1994) mandates that large airplanes that fly above 25,000 feet and turbo-engine powered airplanes must be equipped with one or more approved flight recorders, and must record data relating time, altitude, airspeed, vertical acceleration and heading. Thus, the flight data acquired by the DFDAU and DFDR inherently includes this listed data.
receiving a signal indicating a landing of the aircraft from at least a second sensor.	The aircraft data is provided by the airborne data acquisition unit in a compressed and encrypted format that is automatically downloaded to an airport-resident base station segment when the aircraft lands. Page 41, lines 5-10. A second transducer, i.e., second sensor, must sense the landing of the aircraft in order to download automatically any data.
processing said flight data to prepare said data for transmission; and	GDL airborne segment 101, GDL unit 111, GDL antenna 113, page 16, lines 19-22; page 20, lines 16-22.
transmitting said processed data via a cellular infrastructure when said aircraft has landed,	FIG. 1A, circular cells defined by wireless routers 201 and base stations 202; FIG. 4, circular cells 214, 215; page 15, lines 23-24; page 23, lines 21-23. Page 37, line 20-25 defines the system as cellular infrastructure typical of cellular telephone network.
wherein the cellular infrastructure is accessed in response to the signal.	Page 41, lines 7-9; "that is automatically downloaded . . . when aircraft lands." Thus, data is transmitted through the cellular communications infrastructure.

Applicants have amended verbatim from reexamined U.S. Patent No. 6,181,990 the allowed independent claims 1, 15, 18, 19, 20 and 33. Applicants note that these claim recitations are specifically disclosed in Applicants' original disclosure filed November 14, 1995. No affidavits or declarations under 37 CFR §1.608 are submitted with this Amendment because Applicants are the senior party.

Clearly, Applicants' Amendment shows that Applicants were in possession of the invention as now claimed in this Amendment. The chart applying the copied claims to Applicants' disclosure shows the use of an aircraft data acquisition unit that acquires data from throughout the aircraft. This data is downloaded after the plane lands at the airport. This can occur automatically after landing. The communication system is structured as a cellular infrastructure, as clearly seen in the cellular cells defined by wireless routers and operative with the TCP/IP protocol and ISDN TELCO as a public switch telephone network. The channel sharing and other communication system is akin to cellular telephone networks as clearly described in the specification. The data is received and processed at a remote flight operations control center. At least first and second sensors, i.e., "aircraft flight parameter transducers" are included. The listing of flight data is inherent to the DFDAU and DFDR used on airplanes according to FAA regulations.

Pursuant to 37 CFR §1.607, Applicants "present" the following proposed Count I based on amended claim 59:

59. An aircraft data transmission system, the aircraft having a data acquisition unit and the aircraft including a data storage medium having stored thereon flight data gathered in-flight by at least a first sensor on the aircraft, comprising:

a communications unit located in the aircraft and in communication with the data acquisition unit;

at least a second sensor configured to sense a landing of the aircraft;

a cellular infrastructure in communication with said communications unit after the aircraft has landed, wherein the cellular infrastructure communicates said flight data, and wherein the communication is initiated when at least the second sensor senses the landing of the aircraft;

a data reception unit in communication with said cellular infrastructure; and

wherein said flight data includes time, airspeed, altitude, vertical acceleration, and heading data relating to a flight of the aircraft.

Applicants submit that the proposed Count I corresponds to patentees' Claims 1-4, 6, 7, 15-24 and 33 and Applicants' Claims 59-75 as amended.

Because the subject application claims original priority as a series of continuation applications to the parent application filed on November 14, 1995, which is about two years and eight months before the filing date of July 30, 1998 for the application that matured into U.S. Patent No. 6,181,990 to Grabowsky et al., Applicants are the senior party and no declarations under 37 CFR §1.608 are required.

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Applicants respectfully request that an interference be declared with Applicants as senior party.

Respectfully submitted,

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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: **MAIL STOP AF, COMMISSIONER FOR PATENTS, P.O. BOX 1450, ALEXANDRIA, VA 22313-1450,** on this 20th day of April, 2006.

Julie Lalor